



May 2021

COVID-19 IN NURSING HOMES

Most Homes Had
Multiple Outbreaks
and Weeks of
Sustained
Transmission from
May 2020 through
January 2021

Accessible Version

GAO Highlights

Highlights of [GAO-21-367](#), a report to congressional addressees

Why GAO Did This Study

The COVID-19 pandemic has had a disproportionate impact on the 1.4 million elderly or disabled residents in the nation's more than 15,000 Medicare- and Medicaid-certified nursing homes. The Centers for Medicare & Medicaid Services (CMS) is responsible for ensuring that nursing homes nationwide meet federal quality standards.

The CARES Act includes a provision directing GAO to monitor the federal pandemic response. GAO was also asked to review CMS oversight of nursing homes in light of the pandemic. This report describes the frequency and duration of COVID-19 outbreaks in nursing homes. Future GAO reports will further examine nursing homes' experiences with COVID-19 outbreaks.

To conduct this work, GAO analyzed CDC data on COVID-19 reported by nursing homes each week of the review period from May 2020 through January 2021, the most recent data available at the time GAO conducted its review. Using CDC's definition of an outbreak, GAO determined the number and duration of outbreaks each nursing home experienced during the review period. GAO included data from the 13,380 Medicare- and Medicaid-certified homes (88 percent of Medicare- and Medicaid-certified homes) that passed CDC and CMS quality checks each week of the review period—the most reliable data for calculating the number and duration of outbreaks. GAO also categorized the nursing homes into two groups based on the duration of their longest outbreak: 1) those nursing homes with outbreaks lasting less than 5 weeks and 2) those nursing homes with outbreaks lasting at least 5 weeks.

View [GAO-21-367](#). For more information, contact John E. Dicken at (202) 512-7114 or dickenj@gao.gov.

May 2021

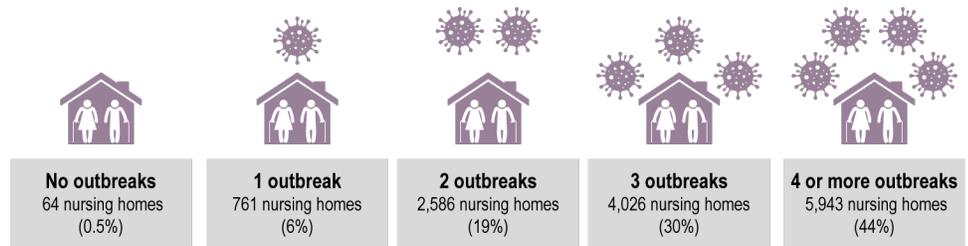
COVID-19 IN NURSING HOMES

Most Homes Had Multiple Outbreaks and Weeks of Sustained Transmission from May 2020 through January 2021

What GAO Found

GAO analysis of data from the Centers for Disease Control and Prevention (CDC) shows that, from May 2020 through January 2021, nursing homes commonly experienced multiple COVID-19 outbreaks. According to CDC, an outbreak starts the week a nursing home reports a new resident or staff COVID-19 case and ends when there are 2 weeks with no new cases. GAO found that nursing homes had an average of about three outbreaks during the review period, with most of the nursing homes (94 percent, or 12,555 of the 13,380 nursing homes) experiencing more than one COVID-19 outbreak.

NUMBER OF COVID-19 OUTBREAKS IN 13,380 REVIEWED NURSING HOMES



Source: GAO analysis of Centers for Disease Control and Prevention data. | GAO-21-367

Data table for Number of COVID-19 outbreaks in 13,380 reviewed nursing homes

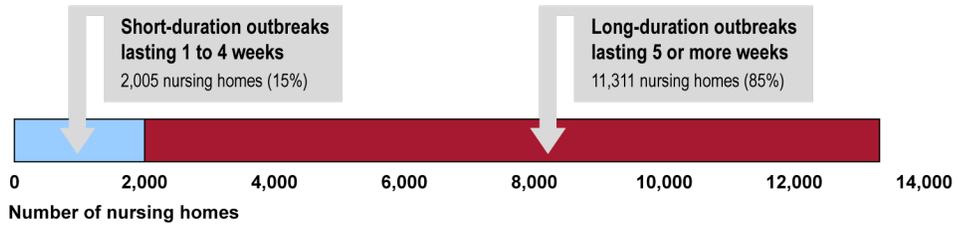
	No outbreaks	1 outbreak	2 outbreaks	3 outbreaks	4 or more outbreaks
Number of nursing homes	64	761	2,586	4,026	5,943
Percentage of nursing homes	0.5	6	19	30	44

Note: Percentages may not add to 100 due to rounding. Data are from the weeks ending May 31, 2020, through January 31, 2021. An outbreak begins when a nursing home reports a new case of COVID-19 in residents or staff.

For each nursing home's longest-lasting COVID-19 outbreak, GAO found that about 85 percent (11,311 nursing homes) had outbreaks lasting 5 or more weeks. Conversely, for about 15 percent of nursing homes (2,005 homes), the longest outbreak was shorter in duration, lasting between 1 and 4 weeks, with 267 of those homes able to control their outbreaks after the initial week.

- The average number of COVID-19 cases per outbreak for nursing homes with a long-duration outbreak was 56, while the average for nursing homes with a short-duration outbreak was 13.
- For both long- and short-duration outbreaks, over half of the nursing homes (66 percent, or 8,720 homes) reported that these outbreaks began with a staff member who tested positive the first week.

DURATION OF LONGEST COVID-19 OUTBREAK IN 13,316 NURSING HOMES



Source: GAO analysis of Centers for Disease Control and Prevention data. | GAO-21-367

Data table for, Duration of Longest Covid-19 outbreak in 13,316 nursing homes.

	Short-duration outbreaks lasting 1 to 4 weeks	Long-duration outbreaks lasting 5 or more weeks
Number of nursing homes and percentage	2,005 (15%)	11,311 (85%)

Note: Of 13,380 nursing homes reviewed, 13,316 nursing homes had COVID-19 outbreaks and 64 nursing homes did not. Data are from the weeks ending May 31, 2020, through January 31, 2021.

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Abbreviations

CDC	Centers for Disease Control and Prevention
CMS	Centers for Medicare & Medicaid Services
COVID-19	Coronavirus Disease 2019
HHS	Department of Health and Human Services

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May 19, 2021

Congressional Addressees

The Coronavirus Disease 2019 (COVID-19) pandemic has had a disproportionate impact on the 1.4 million elderly or disabled residents in the nation's more than 15,000 Medicare- and Medicaid-certified nursing homes, who are often in frail health and living in close proximity to one another. One of the first major COVID-19 outbreaks was reported in a Washington State nursing home in February 2020, where there were reports that infection transmission continued among residents, staff, and visitors for several weeks before the outbreak was contained. One year later, the COVID-19 pandemic had reached nearly all Medicare- and Medicaid-certified nursing homes, according to data from the Centers for Disease Control and Prevention (CDC). While the introduction of vaccines and the sharp decline in nursing home cases and deaths since their peaks in December 2020 may indicate that nursing homes are seeing a reprieve, little is still known about the frequency and duration of COVID-19 outbreaks in nursing homes at critical points during the pandemic.

The CARES Act includes a provision directing us to monitor the federal response to the COVID-19 pandemic.¹ In response to the CARES Act, we have examined the response to COVID-19 in nursing homes in five reports since June 2020.² Also, you asked us to examine the Centers for Medicare & Medicaid Services' (CMS) oversight of infection prevention and control protocols and the adequacy of emergency preparedness standards for emerging infectious diseases in nursing homes, as well as CMS's response to the pandemic.

This report describes the frequency and duration of COVID-19 outbreaks in nursing homes from May 2020 through January 2021. Future GAO reports will examine more broadly infection prevention and control and emergency preparedness in nursing homes and CMS's response to the COVID-19 pandemic.

¹Pub. L. No. 116-136, § 19010(b), 134 Stat. 281, 579 (2020).

²We regularly issue government-wide reports on the federal response to COVID-19. For the latest report, see GAO, *COVID-19: Sustained Federal Action Is Crucial as Pandemic Enters Its Second Year*, [GAO-21-387](#) (Washington, D.C.: Mar. 31, 2021). Our next government-wide report will be issued in July 2021 and will be available on GAO's website at <https://www.gao.gov/coronavirus>.

To conduct this work, we analyzed CMS and CDC data; reviewed agency guidance and documents; spoke to representatives from three national organizations that we selected because they represent nursing homes, residents, and their families; and spoke to five researchers with published research on nursing home infection control. Specifically, in our data review, we analyzed CDC data on COVID-19 reported by nursing homes from the week ending May 31, 2020, through the week ending January 31, 2021, the most recent data available at the time we conducted our review.³ We analyzed data from 13,380 Medicare- and Medicaid-certified nursing homes that had COVID-19 data that passed CDC's and CMS's quality assurance checks in all weeks of our review period.⁴ This represents approximately 88 percent of all Medicare- and Medicaid-certified nursing homes that submitted data at any point during our review period.⁵

Our analysis included multiple steps. First, we identified the nursing homes that reported at least one new COVID-19 case in a resident or staff member in any week of our review period.⁶ According to CDC, a COVID-19 outbreak starts the week a nursing home reports a new

³The CDC data on COVID-19 in nursing homes were accessed on February 25, 2021, for the week ending January 31, 2021, from <https://data.cms.gov/Covid19-nursing-home-data>. Nursing homes report aggregate data to CDC on a weekly basis. According to CDC, data used in this analysis are part of a live data set, meaning that facilities can make corrections to the data at any time.

The week ending May 31, 2020, is the first single week of data reported to CDC. The week ending May 24 is the only earlier week of data and could potentially include cases and deaths for multiple weeks dating back to January 1, 2020, for those homes that voluntarily reported such data. It is therefore not comparable with data for other weeks, and we excluded it.

⁴Data quality checks are performed by CDC and CMS to identify instances where facilities may have entered incorrect data, such as entering cumulative counts over time instead of new cases and other data entry errors. One thousand, eight hundred fifty-one Medicare- or Medicaid-certified nursing homes were excluded because they did not pass one or more weeks of these data quality checks during the 36 weeks of the period analyzed. These excluded homes were located in all states but one. Further, while there was variation in the percentage of homes in each state that did not pass data quality checks, no states were extreme outliers.

⁵We compared our findings to an analysis of Medicare- and Medicaid-certified nursing homes with CDC data that passed quality assurance checks in any week during our review period—rather than every week—and had similar findings.

⁶According to CDC, nursing home staff include anyone working or volunteering in the home, which includes, but is not limited to, contractors, temporary staff, or resident caregivers.

COVID-19 case in a resident or staff member and ends when the nursing home has 2 consecutive weeks where they report no new staff or resident cases.⁷ Using this definition of an outbreak, we determined the number and duration of outbreaks each nursing home experienced during the review period.

Next, we categorized the nursing homes with COVID-19 outbreaks into two groups based on the duration of their outbreak. So that each nursing home was represented once, we used the longest-lasting outbreak for nursing homes with more than one outbreak. We defined the groups as nursing homes with

- short-duration outbreaks—nursing homes with an outbreak lasting less than 5 weeks—and
- long-duration outbreaks—that is, nursing homes with an outbreak lasting 5 or more weeks.⁸

Finally, we used CMS data to examine a selection of characteristics for nursing homes with no outbreaks, short-duration outbreaks, and long-duration outbreaks. Specifically, we examined nursing home ownership and nursing home bed size using data publicly available on CMS's website, as well as infection prevention and control deficiencies cited prior to the pandemic.⁹ We used these data to describe the distribution of these characteristics and the duration of the COVID-19 outbreaks. In addition, we examined the variation among states by outbreak duration. We analyzed the CDC data as they were reported by nursing homes to CDC and publicly posted by CMS. We did not otherwise independently verify the accuracy of the information with these nursing homes. We assessed

⁷See Centers for Disease Control and Prevention, *Testing Guidelines for Nursing Homes*, accessed January 13, 2021, from <https://www.cdc.gov/coronavirus/2019-ncov/hcp/nursing-homes-testing.html#nursing-home>.

⁸The cut-off point between 4 and 5 weeks for the two groups was based on the incubation period for COVID-19—which, according to CDC, is thought to extend to 2 weeks from exposure—and additional time to receive test results.

⁹Infection prevention and control deficiencies are the deficiency code used by state surveyors when a nursing home fails to meet CMS's requirements for infection prevention and control. We examined the publicly available infection prevention and control deficiencies cited in 2018 and 2019. We also analyzed data on infection prevention and control deficiencies cited from 2013 through 2017 and provided by CMS for a prior GAO report. See GAO, *Infection Control Deficiencies Were Widespread and Persistent in Nursing Homes Prior to COVID-19 Pandemic*. [GAO-20-576R](#) (Washington, D.C.: May 20, 2020).

the reliability of the CDC and CMS data sets used in our analyses by checking for missing values and obvious errors and reviewing relevant CDC and CMS documents. We determined the data were sufficiently reliable for the purposes of our reporting objective.

We conducted this performance audit from December 2020 to May 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Nursing home residents are at a high risk for COVID-19 infection and death because the virus has a high mortality rate among elderly adults and those with underlying health conditions, according to CDC.¹⁰ The congregate nature of nursing homes, with staff caring for multiple residents and residents sharing rooms and other communal spaces, as well as high incidence rates in the surrounding community, can increase the risk that COVID-19 will enter the home (for example, through staff) and easily spread.¹¹ Asymptomatic transmission can further complicate a nursing home's efforts to prevent and control the spread, as it allows the virus to continue to transmit in the home undetected. A growing body of evidence shows that asymptomatic transmission may be a contributing

¹⁰Centers for Disease Control and Prevention, *COVID-19: People Who Live in a Nursing Home or Long-Term Care Facility*, accessed on January 5, 2021, from <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-in-nursing-homes.html>.

¹¹A recent study found that trends in reported COVID-19 cases among nursing home residents and staff were similar to trends in incidence of COVID-19 in surrounding communities. See S. Bagchi et al, "Rates of COVID-19 among Residents and Staff Members in Nursing Homes—United States, May 25–November 22, 2020," *Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report*, January 15, 2021, vol. 70, no. 2 (2021): 52-55.

From March through September 2020, CMS directed nursing homes to restrict visitors and non-essential health care personnel in nursing homes, except in certain compassionate care situations, to reduce the transmission of COVID-19.

factor to nursing home COVID-19 outbreaks.¹² However, studies have shown that testing of residents and staff is a key strategy that can allow for the timely identification and control of infections and, when paired with strict adherence to infection prevention and control practices, can be critical for containing outbreaks and protecting both residents and staff.¹³

CMS is responsible for ensuring that nursing homes meet federal quality standards to participate in the Medicare and Medicaid programs. These standards require, for example, that nursing homes establish and maintain an infection control program. To monitor compliance with these standards, CMS enters into agreements with state survey agencies in each state government to conduct inspections, including recurring comprehensive standard surveys and as-needed investigations. If a surveyor from a state survey agency determines that a nursing home violated a federal standard during a survey or investigation, the nursing home is cited for the deficiency.

We have issued several reports examining COVID-19 in nursing homes, part of our larger bodies of work on nursing home oversight and on the federal response to the COVID-19 pandemic. (See app. II for a list of related GAO products.) In May 2020, we analyzed CMS nursing home infection prevention and control deficiency data, finding that these deficiencies were widespread and persistent in nursing homes in the years prior to the COVID-19 pandemic.¹⁴ In response to the CARES Act,

¹²Studies have shown that approximately half of nursing home residents diagnosed with COVID-19 were asymptomatic at the time of testing. For example, see A. Kimball et al., “Asymptomatic and Presymptomatic SARS-CoV-2 Infections in Residents of a Long-Term Care Skilled Nursing Facility—King County, Washington, March 2020,” *Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report*, vol. 69, no. 13 (2020): 377-381; M. Arons et al., “Presymptomatic SARS-CoV-2 Infections and Transmission in a Skilled Nursing Facility,” *New England Journal of Medicine*, vol. 382, no.22 (2020): 2081-2090; and S. Shi et al., “Risk Factors, Presentation, and Course of Coronavirus Disease 2019 in a Large, Academic, Long-Term Care Facility,” *JAMDA*, vol. 21, no. 10 (2020): 1378-1383.

¹³See C. Telford et al., “Preventing COVID-19 Outbreaks in Long-Term Care Facilities through Preemptive Testing of Residents and Staff Members—Fulton County, Georgia, March-May 2020,” *Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report*, vol. 69, no. 37 (2020) 1296-1299, and J. Taylor, “Serial Testing for SARS-CoV-2 and Virus Whole Genome Sequencing Inform Infection Risk at Two Skilled Nursing Facilities with COVID-19 Outbreaks—Minnesota, April-June 2020,” *Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report*, vol. 69, no. 37 (2020): 1288-1295.

¹⁴See [GAO-20-576R](#).

we have examined the federal response to COVID-19 in nursing homes in five subsequent reports, where we reported on nursing home-related actions the Department of Health and Human Services (HHS) had taken in response to the pandemic, primarily through CMS and CDC, as well as challenges nursing homes faced responding to COVID-19. For example, in our September 2020 report we described how HHS, through CMS, implemented a COVID-19 reporting requirement for nursing homes effective May 8, 2020, and made reporting prior to May 8, 2020, optional.¹⁵ Also in September 2020, HHS began requiring nursing homes to routinely test staff for COVID-19 based on the degree of community spread and to test staff and residents with symptoms. If a nursing home identifies a new COVID-19 case in staff or residents, all staff and residents must be tested.

Most Nursing Homes Had Multiple COVID-19 Outbreaks and 5 or More Weeks of Sustained Transmission

Our analysis of CDC data shows that, from May 2020 through January 2021, nursing homes commonly experienced multiple COVID-19 outbreaks that often lasted 5 or more weeks and were first reported in staff. This analysis highlights the challenges most nursing homes faced when responding to the COVID-19 pandemic—responding to repeated outbreaks, many with weeks of continued spread and marked by high numbers of cases and deaths. Specifically, we found that nursing homes had an average of about three outbreaks from May 2020 through January 2021, with most nursing homes (94 percent or 12,555 of the 13,380 nursing homes with CDC data that passed quality assurance checks in all

¹⁵GAO has made four recommendations to HHS related to nursing homes in our CARES Act reports, including to develop a strategy to capture more complete data on confirmed COVID-19 cases and deaths in nursing homes retroactively back to January 1, 2020. We will continue to monitor HHS's progress towards implementing these four recommendations. For the GAO CARES Act reports with nursing home-related recommendations, see GAO, *COVID-19: Federal Efforts Could Be Strengthened by Timely and Concerted Actions*, [GAO-20-701](#), (Washington, D.C.: Sept. 21, 2020); *COVID-19: Urgent Actions Needed to Better Ensure an Effective Federal Response*, [GAO-21-191](#), (Washington, D.C.: Nov. 30, 2020); and *COVID-19: Sustained Federal Action is Crucial as Pandemic Enters its Second Year*, [GAO-21-387](#), (Washington, D.C.: March 31, 2021).

weeks) experiencing more than one outbreak during our period of review.¹⁶

For each nursing home's longest-lasting COVID-19 outbreak, about 85 percent (11,311 nursing homes) had outbreaks lasting 5 or more weeks.¹⁷ Conversely, for about 15 percent of nursing homes (2,005 homes), the longest outbreak was shorter in duration, lasting between 1 and 4 weeks, and 267 of those homes were able to control their outbreaks after the initial week.¹⁸ (See fig. 1.) Further:

- Nursing homes with a long-duration outbreak also had a higher average number of resident and staff cases during the outbreak compared to nursing homes with a short-duration outbreak. Specifically, the average number of COVID-19 cases per outbreak for nursing homes with a long-duration outbreak was 56, while the average for nursing homes with a short-duration outbreak was 13.¹⁹
- For both long- and short-duration outbreaks, over half of the nursing homes (66 percent or 8,720 nursing homes) reported that these outbreaks began with a staff case the first week of the outbreak.²⁰

¹⁶Most of the remaining 6 percent of nursing homes (761 homes) had one COVID-19 outbreak while less than 1 percent (64 homes) had no outbreaks.

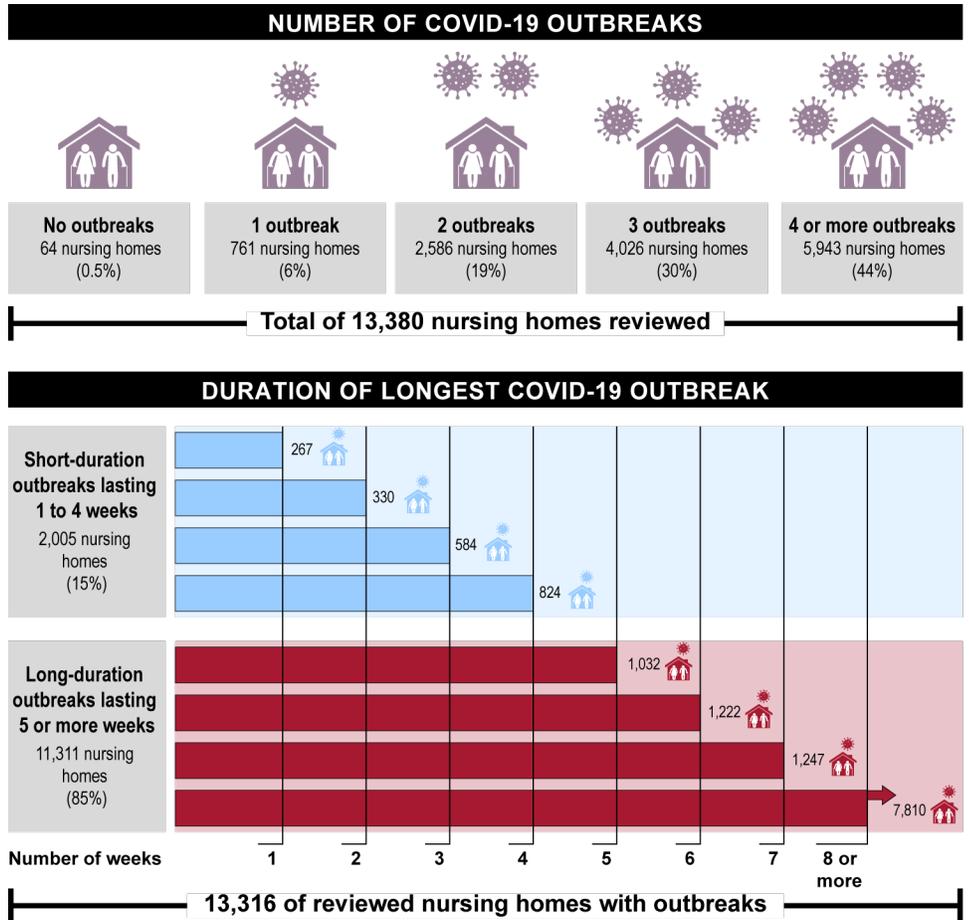
¹⁷Since many nursing homes experienced repeated COVID-19 outbreaks, we used the outbreak with the longest duration for this analysis.

¹⁸We also examined this for Medicare- and Medicaid-certified nursing homes with CDC data that passed quality assurance checks in any week during our review period—rather than every week—and found similar percentages. Specifically, for each home's longest-lasting outbreak, 12,706 of 15,231 nursing homes (83 percent) had a long-duration outbreak and 2,409 (16 percent) had a short-duration outbreak.

¹⁹Similarly, for the entire period of our review, total reported COVID-19 deaths for homes with long-duration outbreaks ranged from zero to 102, with an average of seven deaths per nursing home; for homes with short-duration outbreaks, deaths ranged from zero to 54, with an average of two deaths per nursing home. We analyzed deaths over the entire period of review, rather than just for the longest duration outbreak, because we cannot determine to which outbreak a death is attributed.

²⁰Sixteen percent (2,095 homes) of nursing homes reported cases in residents first, and 19 percent of nursing homes (2,501 homes) reported that both residents and staff were identified with cases in the first week of the outbreak.

Figure 1: Number and Duration of COVID-19 Outbreaks in Nursing Homes, May 31, 2020, through January 31, 2021



Source: GAO analysis of Centers for Disease Control and Prevention data. | GAO-21-367

Data tables for Figure 1: Number and Duration of COVID-19 Outbreaks in Nursing Homes, May 31, 2020, through January 31, 2021

Number of COVID-19 outbreaks

	No outbreaks	1 outbreak	2 outbreaks	3 outbreaks	4 or more outbreaks
Number of nursing homes	64	761	2,586	4,026	5,943
Percentage of nursing homes	0.5	6	19	30	44

Duration of longest COVID-19 outbreak

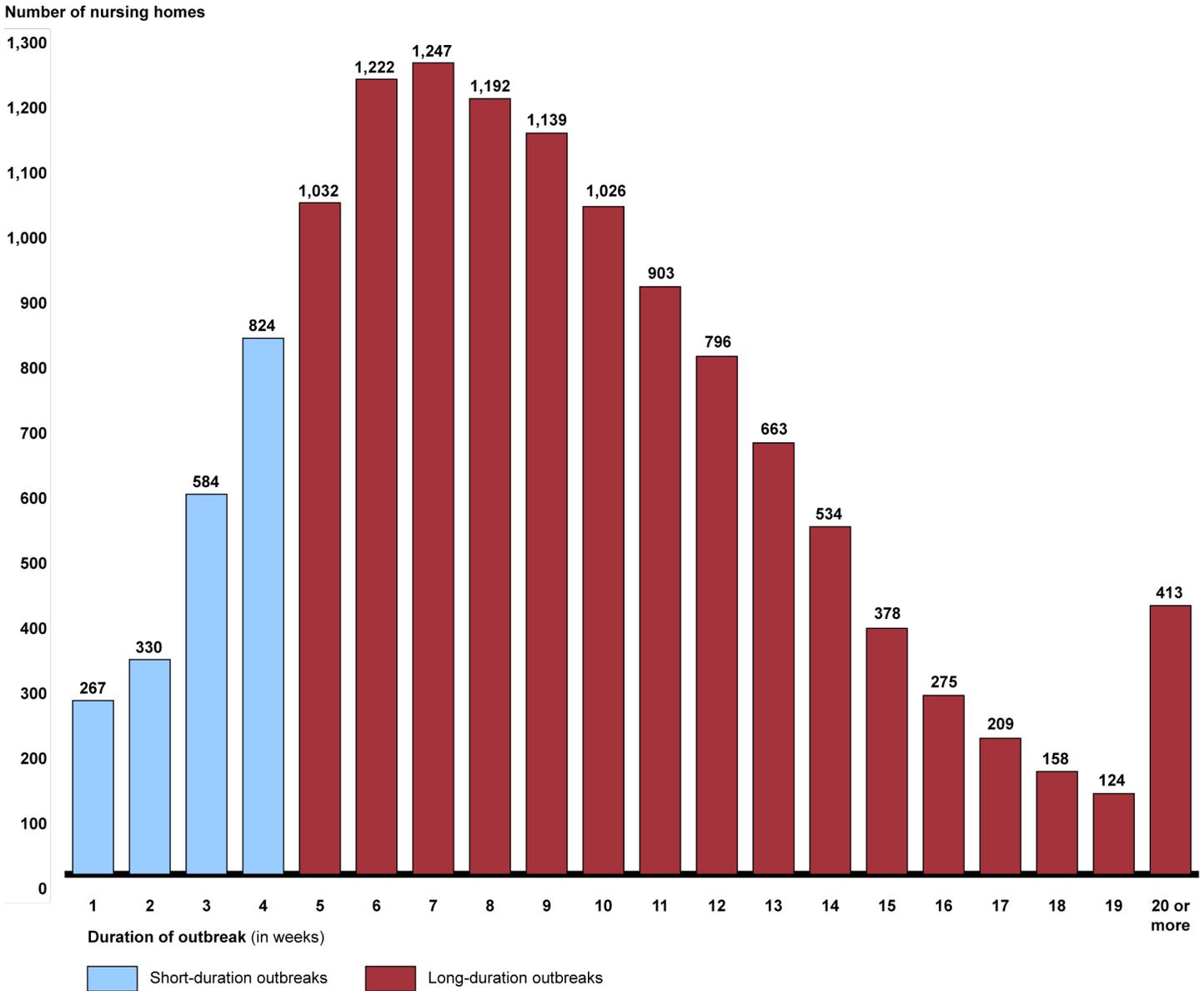
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Weeks 8 or more
Short-duration outbreaks lasting 1 to 4 weeks (2,005 nursing homes/15%)	267	330	584	824	N/A	N/A	N/A	N/A
Long-duration outbreaks lasting 5 or more weeks (11,311 nursing homes/85%)	N/A	N/A	N/A	N/A	1,032	1,222	1,247	7,810

Note: The universe of 13,380 nursing homes includes Medicare- and Medicaid-certified homes with COVID-19 data that passed CDC quality assurance checks in all weeks from May 31, 2020, through January 31, 2021. An outbreak begins when a nursing home reports a new case of COVID-19 in a resident or staff member, and an outbreak ends when the nursing home has 2 consecutive weeks without a new COVID-19 case. Percentages may not add to 100 due to rounding.

A closer examination of the 11,311 nursing homes in the CDC data with long-duration COVID-19 outbreaks (5 or more weeks) shows the following:

- Over half of the nursing homes (61 percent or 6,858 nursing homes) had outbreaks lasting between 5 and 10 weeks. The remaining 39 percent of these homes with long-duration outbreaks (4,453 nursing homes) had outbreaks lasting more than 10 weeks. (See fig. 2.)
- About one-third (36 percent or 4,045 nursing homes) had more than one long-duration outbreak during the period of our review, and 88 percent (9,921 nursing homes) also had one or more short-duration outbreaks.
- The majority of these long-duration outbreaks started between October and December 2020—generally consistent with a period of time where weekly case and death counts in nursing homes increased to their highest points since the start of the pandemic.

Figure 2: Number of Nursing Homes by Duration of Longest COVID-19 Outbreak, May 31, 2020, through January 31, 2021



Source: GAO analysis of Centers for Disease Control and Prevention data. | GAO-21-367

Data table for Figure 2: Number of Nursing Homes by Duration of Longest COVID-19 Outbreak, May 31, 2020, through January 31, 2021

	Short-duration outbreaks					Long-duration outbreaks														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 or more
Number of nursing homes	267	330	584	824	1032	1222	1247	1192	1139	1026	903	796	663	534	378	275	209	158	124	413

Note: The universe of 13,316 nursing homes includes Medicare- and Medicaid-certified homes with COVID-19 outbreaks and data that passed CDC quality assurance checks in all weeks from May 31, 2020, through January 31, 2021. Since many nursing homes experienced repeated COVID-19 outbreaks, we used the outbreak with the longest duration for this analysis. An outbreak begins when a nursing home reports a new case of COVID-19 in a resident or staff member, and an outbreak ends when the nursing home has 2 consecutive weeks without a new COVID-19 case.

Further, using the CDC data and CMS nursing home data, we describe the distribution of a selection of nursing home characteristics and the duration of COVID-19 outbreaks—long-duration, short-duration, and none.

- Number of beds.** We found that nursing homes with long-duration outbreaks were more likely to have a larger number of beds than homes with short-duration outbreaks. Specifically, nursing homes with less than 50 beds comprised 12 percent of all nursing homes in our review, but made up a greater share of homes with short-duration outbreaks (28 percent) and a smaller share of homes with long-duration outbreaks (9 percent). The inverse was the case for nursing homes with 100 to 199 beds, as they made up 44 percent of homes in our review overall but made up 27 percent of homes with short-duration outbreaks and 47 percent of homes with long-duration outbreaks.²¹ In part, this reflects the fact that larger homes will inherently incur a higher risk of having at least one case, given that they have more residents and staff, each of whom could become that case. In addition, studies have shown that larger nursing homes with more beds and, subsequently, more residents and staff, may have a

²¹The average number of beds in the group of nursing homes with long-duration outbreaks was larger than the average number of beds in the group of nursing homes with short-duration outbreaks—an average of 110 beds compared to 77 beds. We measured number of beds using Medicare- and Medicaid-certified beds.

higher risk of exposure to COVID-19—particularly in areas of high community spread—and thus greater potential for more people in the facility to become infected.²²

- **Ownership.** We did not see differences between the homes with long- and short-duration outbreaks and their ownership profit status (i.e., for-profit, non-profit, or government). For example, nursing homes owned by for-profit organizations, which comprised 70 percent of all nursing homes in our review, also accounted for about 70 percent of nursing homes in each of these outbreak duration groups.
- **History of infection prevention and control deficiencies.** An examination of the distribution of nursing homes cited with infection prevention and control deficiencies prior to the pandemic (2013 through 2019) and nursing homes with long- and short-duration outbreaks did not show notable differences. This is because most nursing homes in each of these groups had infection prevention and control deficiencies cited in these years, which is consistent with our prior reporting.²³
- **Variation by state.** While the precise percentage of nursing homes that had long-duration outbreaks, short-duration outbreaks, or no outbreaks varied by state, we found that in most states over three-quarters of nursing homes had long-duration outbreaks. Specifically, only eight states—Alaska, Hawaii, Maine, Massachusetts, New Hampshire, Oregon, Vermont, and Washington—had less than three-quarters of their homes with long-duration outbreaks and, therefore, had a higher combined percentage of short-duration outbreaks and homes without any outbreaks. Conversely, five states had 95 percent or more of their nursing homes that experienced long-duration outbreaks—Alabama, Arkansas, North Dakota, South Carolina, and Tennessee. (See app. I.)

Researchers and representatives of national associations and organizations we interviewed told us about several factors that can increase the risk of COVID-19 being introduced into a nursing home and spreading. These officials frequently highlighted the risks posed by a

²²See, for example, C. Harrington et al. “Nurse Staffing and Coronavirus Infections in California Nursing Homes,” *Policy, Politics, and Nursing Practice*, vol. 21, no. 3 (2020): 174-186.

²³Infection prevention and control deficiencies cited by surveyors can include situations where nursing home staff did not regularly use proper hand hygiene or failed to implement preventive measures during an infectious disease outbreak, such as isolating sick residents and using masks and other personal protective equipment to control the spread of infection. See [GAO-20-576R](#).

failure or inability of a nursing home to implement robust infection control practices to control the spread of the virus. For example, officials noted that once COVID-19 enters a home—which can be more likely when community transmission is high—the ability of the home to quickly test, identify, and separate infected residents and staff before they infect others is critically important to stopping the spread. In addition, officials said that a lack of personal protective equipment in the home can increase the risk of spread, because staff can become infected or infect others. Further, officials noted it can be difficult for nursing homes to adhere to infection control practices without adequate staffing. Staffing shortages can occur if staff are out due to illness, and frequent staff turnover makes it difficult for the home to ensure that new staff are trained on proper infection control practices.

Agency Comments

We requested comments on a draft of this product from HHS, including CMS and CDC. CMS's Director of the Division of Nursing Homes provided us with oral technical comments, which we incorporated as appropriate. HHS and CDC told us they had no comments on the draft product.

We are sending copies of this report to the appropriate congressional committees, the Secretary of HHS, and other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-7114 or at dickenj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in Appendix III.



John E. Dicken
Director, Health Care

Letter

List of Addressees

The Honorable Patrick Leahy
Chairman
The Honorable Richard Shelby
Vice Chairman
Committee on Appropriations
United States Senate

The Honorable Ron Wyden
Chairman
The Honorable Mike Crapo
Ranking Member
Committee on Finance
United States Senate

The Honorable Patty Murray
Chairman
The Honorable Richard Burr
Ranking Member
Committee on Health, Education, Labor, and Pensions
United States Senate

The Honorable Gary C. Peters
Chairman
The Honorable Rob Portman
Ranking Member
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Rosa L. DeLauro
Chairwoman
The Honorable Kay Granger
Ranking Member
Committee on Appropriations
House of Representatives

List of Addressees Continued

The Honorable Frank Pallone, Jr.
Chairman
The Honorable Cathy McMorris Rodgers
Republican Leader

Committee on Energy and Commerce
House of Representatives

The Honorable Bennie G. Thompson
Chairman
The Honorable John Katko
Ranking Member
Committee on Homeland Security
House of Representatives

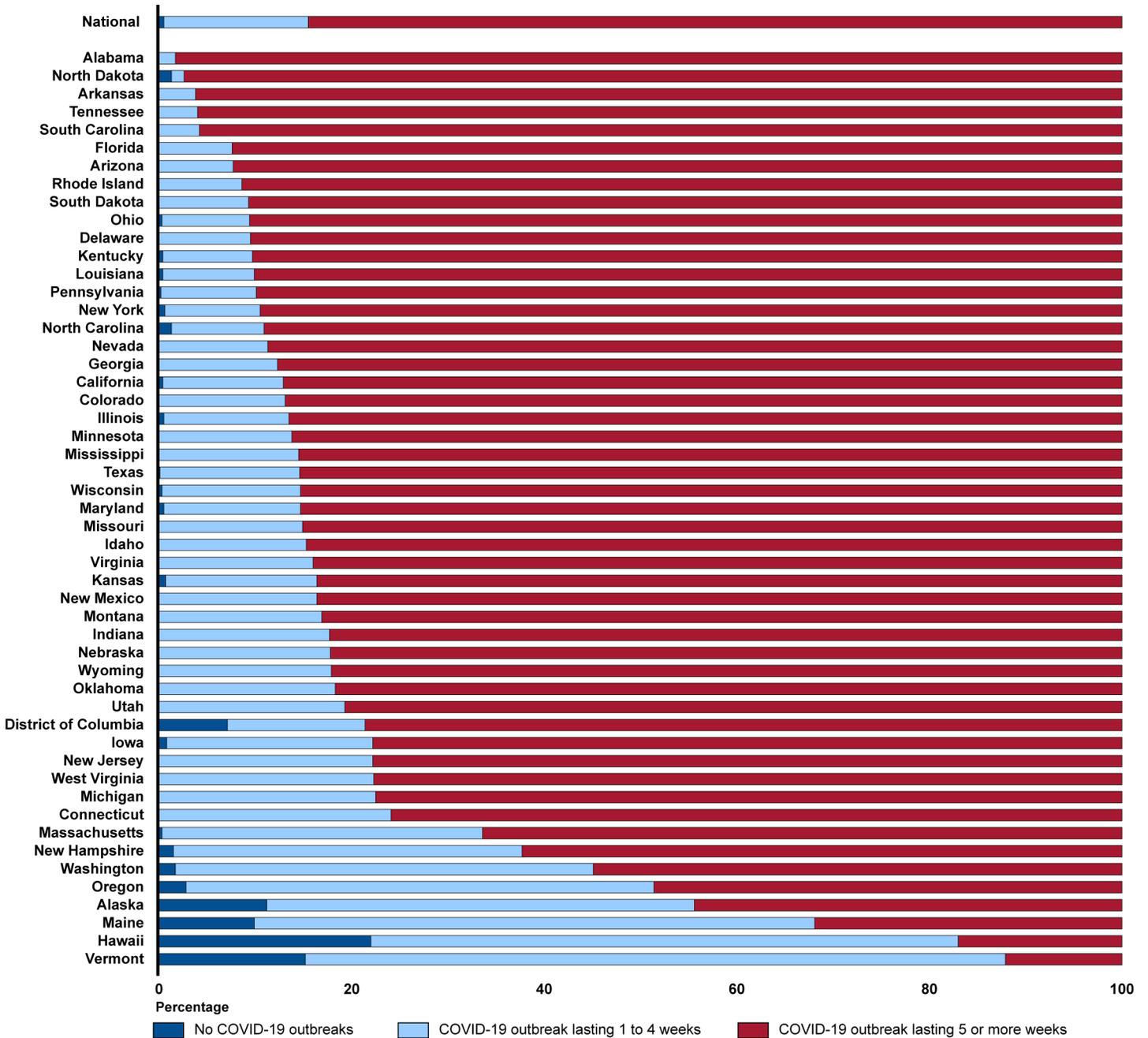
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Appendix I: State Analysis

Figure 3: Percentage of Nursing Homes with No COVID-19 Outbreaks, COVID-19 Outbreaks Lasting 1 through 4 Weeks, and COVID-19 Outbreaks Lasting for 5 or More Weeks, by State, May 31, 2020, through January 31, 2021



Source: GAO analysis of Centers for Disease Control and Prevention data. | GAO-21-367

Data table for Figure 3: Percentage of Nursing Homes with No COVID-19 Outbreaks, COVID-19 Outbreaks Lasting 1 through 4 Weeks, and COVID-19 Outbreaks Lasting for 5 or More Weeks, by State, May 31, 2020, through January 31, 2021

	None	Short	Long
National	0.5	15	84.5
Alabama	0	1.7	98.3
North Dakota	1.3	1.3	97.4
Arkansas	0	3.8	96.2
Tennessee	0	4	96
South Carolina	0	4.2	95.8
Florida	0	7.6	92.4
Arizona	0	7.7	92.3
Rhode Island	0	8.6	91.4
South Dakota	0	9.3	90.7
Ohio	0.3	9.1	90.6
Delaware	0	9.5	90.5
Kentucky	0.4	9.3	90.3
Louisiana	0.4	9.5	90.1
Pennsylvania	0.2	9.9	89.9
New York	0.6	9.9	89.5
North Carolina	1.3	9.6	89.1
Nevada	0	11.3	88.7
Georgia	0	12.3	87.7
California	0.4	12.5	87.1
Colorado	0	13.1	86.9
Illinois	0.5	13	86.5
Minnesota	0	13.8	86.2
Mississippi	0	14.5	85.5
Texas	0.1	14.5	85.4
Wisconsin	0.3	14.4	85.3
Maryland	0.5	14.2	85.3
Missouri	0	14.9	85.1
Idaho	0	15.3	84.7
Virginia	0	16	84
Kansas	0.7	15.7	83.6
New Mexico	0	16.4	83.6
Montana	0	16.9	83.1
Indiana	0	17.7	82.3

Appendix I: State Analysis

	None	Short	Long
Nebraska	0	17.8	82.2
Wyoming	0	17.9	82.1
Oklahoma	0	18.3	81.7
Utah	0	19.3	80.7
District of Columbia	7.1	14.3	78.6
Iowa	0.8	21.4	77.8
New Jersey	0	22.2	77.8
West Virginia	0	22.3	77.7
Michigan	0	22.5	77.5
Connecticut	0	24.1	75.9
Massachusetts	0.3	33.3	66.4
New Hampshire	1.5	36.2	62.3
Washington	1.7	43.4	54.9
Oregon	2.8	48.6	48.6
Alaska	11.2	44.4	44.4
Maine	9.9	58.2	31.9
Hawaii	22	61	17
Vermont	15.2	72.7	12.1

Note: The universe of 13,380 nursing homes includes Medicare- and Medicaid-certified homes with COVID-19 data that passed CDC quality assurance checks in all weeks from May 31, 2020, through January 31, 2021. Since many nursing homes experienced repeated COVID-19 outbreaks, we used the outbreak with the longest duration for this analysis. An outbreak begins when a nursing home reports a new case of COVID-19 in a resident or staff member, and an outbreak ends when the nursing home has 2 consecutive weeks without a new COVID-19 case.

Appendix II: Related GAO Products on COVID-19 in Nursing Homes

COVID-19: Sustained Federal Action Is Crucial as Pandemic Enters its Second Year. [GAO-21-387](#). Washington, D.C.: March 31, 2021.

COVID-19: Critical Vaccine Distribution, Supply Chain, Program Integrity, and Other Challenges Require Focused Federal Attention. [GAO-21-265](#). Washington, D.C.: January 28, 2021.

COVID-19: Urgent Actions Needed to Better Ensure an Effective Federal Response. [GAO-21-191](#). Washington, D.C.: November 30, 2020.

COVID-19: Federal Efforts Could Be Strengthened by Timely and Concerted Actions. [GAO-20-701](#). Washington, D.C.: September 21, 2020.

COVID-19: Opportunities to Improve Federal Response and Recovery Efforts. [GAO-20-625](#). Washington, D.C.: June 25, 2020.

Infection Control Deficiencies Were Widespread and Persistent in Nursing Homes Prior to COVID-19 Pandemic. [GAO-20-576R](#). Washington, D.C.: May 20, 2020.

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

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Staff Acknowledgments

In addition to the contact named above, Karin Wallestad (Assistant Director), Sarah-Lynn McGrath (Analyst-in-Charge), Kathryn Richter, and Julianne Flowers. Also contributing were Isabella Guyott, Laurie Pachter, Vikki Porter, Anna Beth Smith, and Jennifer Whitworth.

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